Name: _____

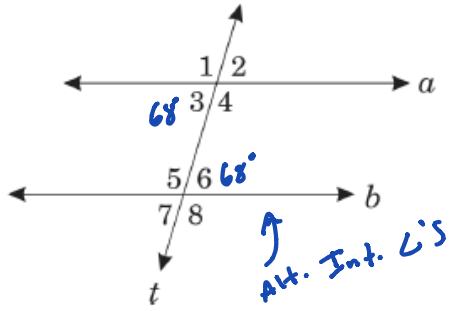
Mastery Quiz

Date: / /

Study Guide

Grade Yourself

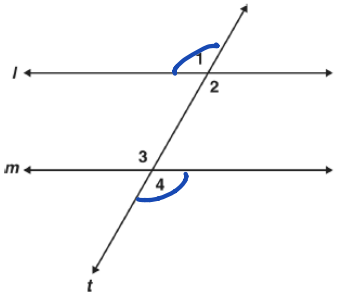
In this figure, line a is parallel to line b.



If the measure of $\angle 3$ is 68°, what is the measure of $\angle 6$?

A. 22° B. 32° C. 68° D. 112°

In the diagram below, $\angle 1 \cong \angle 4$.



Which of the following conclusions does not have to be true?

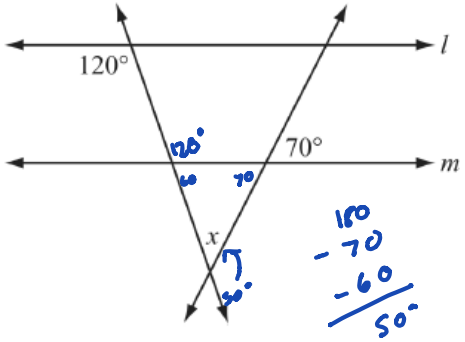
A. $\angle 3$ and $\angle 4$ are supplementary angles.

B. Line l is parallel to line m.

C. $\angle 1 \cong \angle 3$

D. $\angle 2 \cong \angle 3$

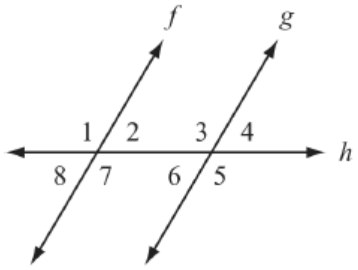
Line l is parallel to line m. Two transversals intersect lines l and m, as shown in the diagram below.



Based on the angle measures in the diagram, what is x?

A. 40° B. 50° C. 60° D. 70°

In the diagram below, line h is a transversal of lines f and g.

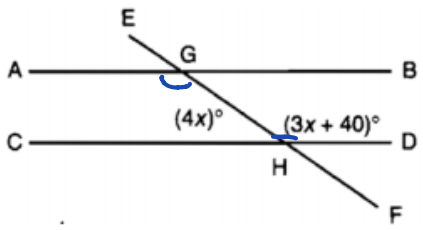


Which of the following relationships proves that lines f and g are parallel?

A. $\angle 1 \cong \angle 4$ B. $\angle 1 \cong \angle 5$

C. $\angle 1 \cong \angle 6$ D. $\angle 1 \cong \angle 7$

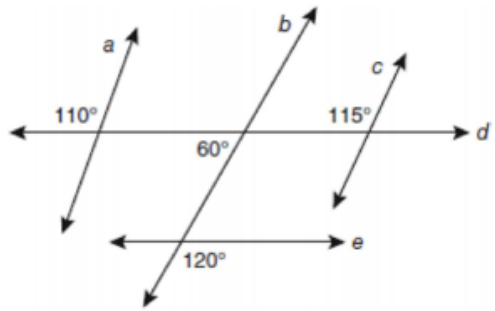
In the diagram below, $\overline{AB}$ is parallel to $\overline{CD}$. Transversal $\overline{EF}$ intersects $\overline{AB}$ and $\overline{CD}$ at G and H, respectively. If $m\angle AGH = 4x$ and $m\angle GHD = 3x + 40$, what is the value of x?



1) 20
2) 40
3) 80
4) 160

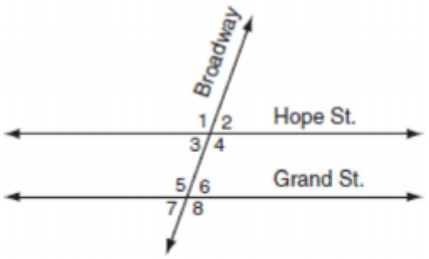
$4x = 3x + 40$
$-3x \quad -3x$
$x = 40$

Based on the diagram below, which statement is true?



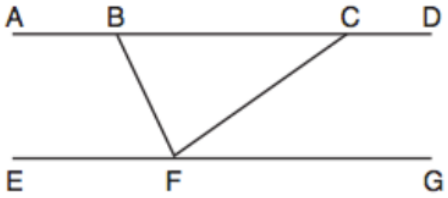
1) $a \parallel b$
2) $a \parallel c$
3) $b \parallel c$
4) $d \parallel e$

The accompanying diagram shows two parallel roads, Hope Street and Grand Street, crossed by a transversal road, Broadway.



If $m\angle 1 = 110$, what is the measure of $m\angle 7$?
1) 40°
2) 70°
3) 110°
4) 180°

Line segments $\overline{AD}$, $\overline{EG}$, $\overline{BF}$, and $\overline{CF}$ as shown in the diagram below. Scalene triangle BFC is formed.



Which statement will allow you to prove $\overline{AD} \parallel \overline{EG}$?
(1) $\angle CFG + \angle FCB = 180$
(2) $\angle EFB = \angle CFB$
(3) $\angle ABF = \angle BFC$
(4) $\angle ABF + \angle EFB = 180$

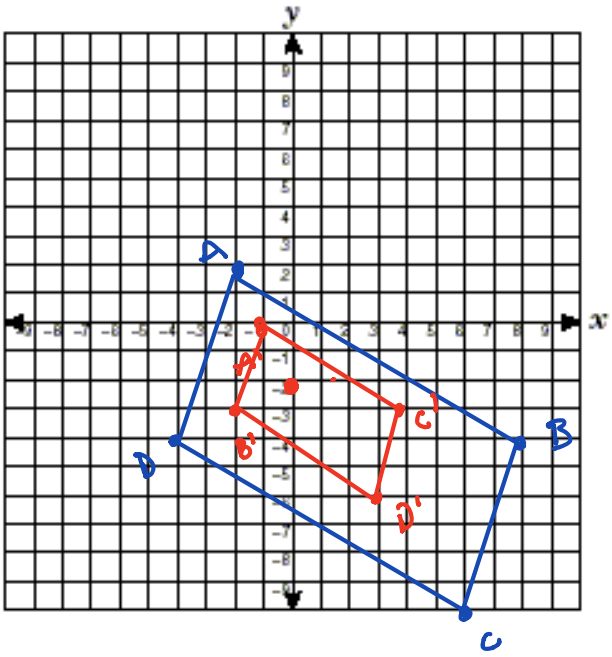
Given: quadrilateral $ABCD$ with vertices $A(-2,2)$, $B(8,-4)$, $C(6,-10)$, and $D(-4,-4)$. State the coordinates of $A'B'C'D'$, the image of quadrilateral $ABCD$ under a dilation of factor $\frac{1}{2}$. centered at (0,-2)

A'(-1, 0)

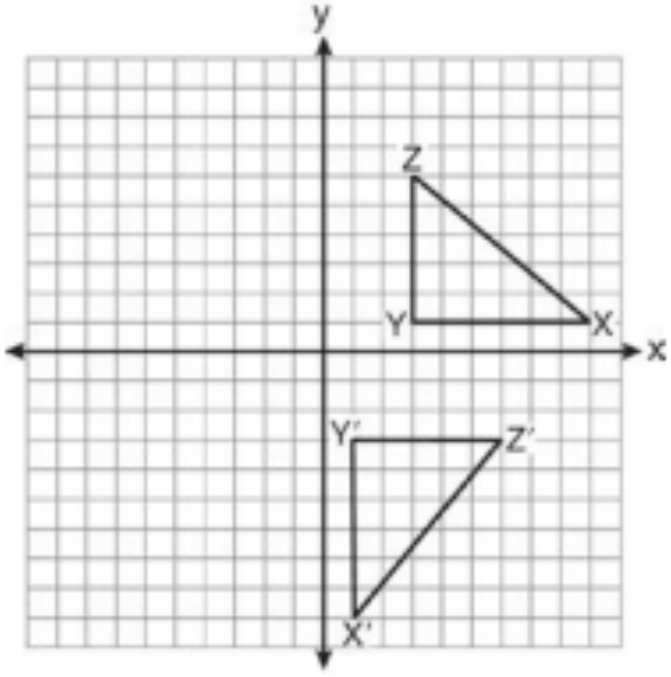
B'(-2, -3)

C'(4, -3)

D(3, -6)

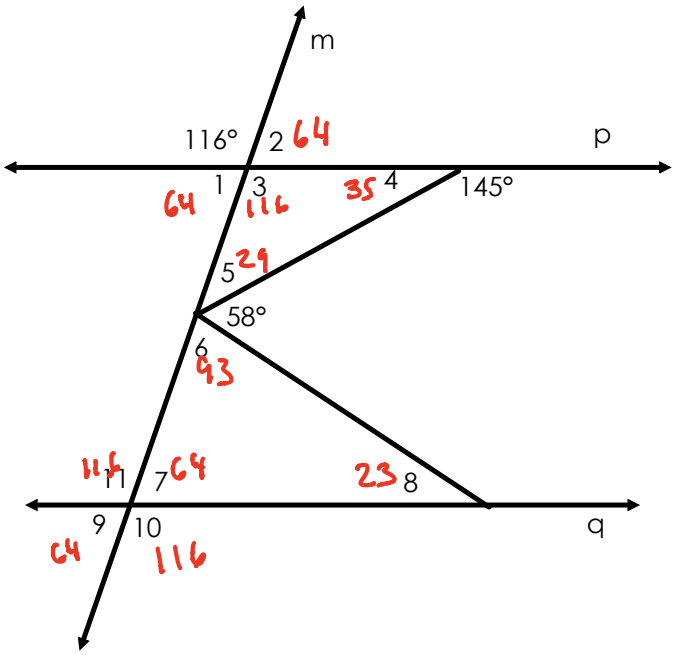


Describe a sequence of rigid motions that maps triangle XYZ onto triangle X'Y'Z'



A translation 4 units down and 2 units left, then a rotation 90° clockwise around point Y.

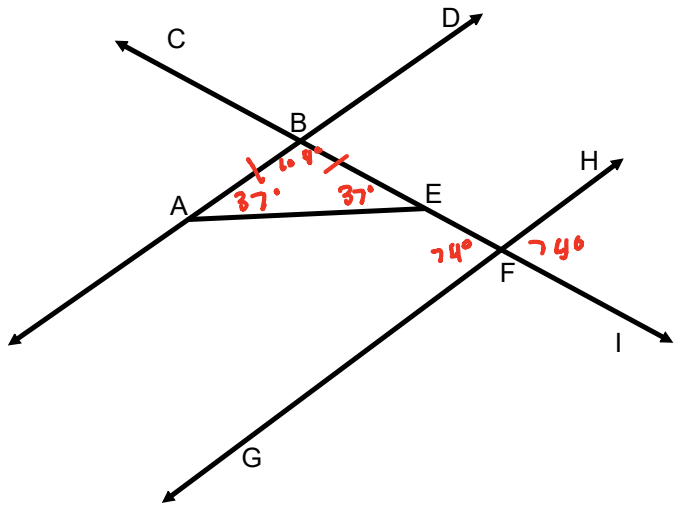
Line m is the transversal for lines p and q. If p ll q, find in all the missing angles and justify your answers.



∠	m	reason

fill in yourself

In the diagram below, $\overline{CI}$ is the transversal of $\overline{AD}$ and $\overline{GH}$. The m∠BAE = 37° , the m∠HFI = 74°, and $\overline{AB} \cong \overline{BE}$. Prove $\overline{AD}$ ll $\overline{GH}$. Explain your reasoning.



∠	m	reason

fill in yourself

AD ll GH b/c same side int. ∠'s are supp.

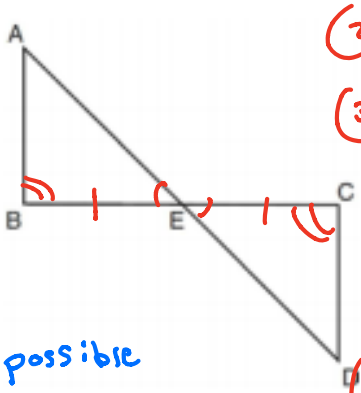
∠ABE + ∠BFG = 180°

NOT ONLY ANSWER

19 Given: $\overline{AD}$ bisects $\overline{BC}$ at E.

AB || CD

Prove: $\overline{AB} \cong \overline{DC}$

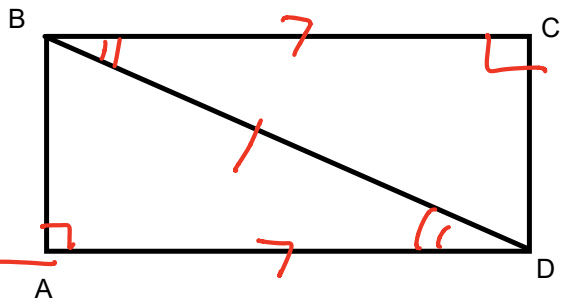


S	R
(1) $\overline{AD}$ bisects $\overline{BC}$ at E	(1) given
(2) $\overline{AB} \parallel \overline{CD}$	(2) given
(3) $\angle AEB \cong \angle CED$	(3) Vert. $\angle$s $\cong$
(4) $\overline{BE} \cong \overline{EC}$	(4) Seg. bisector divides line into 2 $\cong$ parts
(5) $\angle B \cong \angle C$	(5) Alt. int. $\angle$s $\cong$ when lines $\parallel$
(6) $\triangle ABE \cong \triangle DCE$	(6) ASA
(7) $\overline{AB} \cong \overline{DC}$	(7) CPCTC

* Note: This proof is also possible with $\angle A \cong \angle D$

Given: $\overline{AD} \parallel \overline{BC}$, $\overline{BA} \perp \overline{AD}$, and $\overline{BC} \perp \overline{CD}$

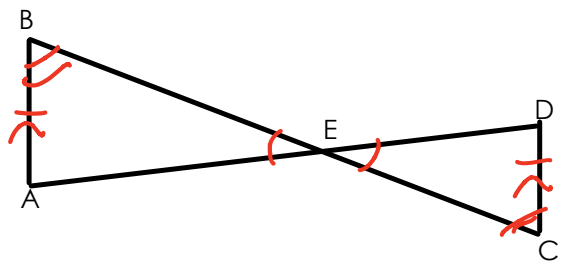
Prove $\overline{AD} \cong \overline{BC}$



S	R
(1) $\overline{AD} \parallel \overline{BC}$	(1) given
(2) $\overline{BA} \perp \overline{AD}$	(2) given
(3) $\overline{BC} \perp \overline{CD}$	(3) given
(4) $\overline{BD} \cong \overline{BD}$	(4) Reflexive
(5) $\angle ADB \cong \angle CBD$	(3) Alt. Int. $\angle$s $\cong$ when lines $\parallel$
(6) $\angle A$ and $\angle C$ are right $\angle$s	(6) $\perp$ lines form right $\angle$s
(7) $\angle A \cong \angle C$	(7) All right $\angle$s $\cong$
(8) $\triangle ABC \cong \triangle DCB$	(8) AAS
(9) $\overline{AD} \cong \overline{BC}$	(9) CPCTC

Given: $\overline{AB} \parallel \overline{CD}$ and $\overline{BA} \cong \overline{DC}$

Prove: $\triangle BAE \cong \triangle CDA$



S	R
(1) $\overline{AB} \parallel \overline{CD}$	(1) given
(2) $\overline{BA} \cong \overline{DC}$	(2) given
(3) $\angle AEB \cong \angle CED$	(3) vert. $\angle$s $\cong$
(4) $\angle B \cong \angle C$	(4) Alt. Int $\angle$s $\cong$ when lines $\parallel$
(5) $\triangle BAE \cong \triangle CDA$	(5) AAS

On a scale of 1 - 10, circle how confident you feel that you will pass this test

No Confidence — I GOT THIS

(1) 2 3 4 5 6 7 8 9 10

Name 5 resources you can use to study for this exam.

1: 3.5 Notes

2: study guide

3: Last 2 Exams

4: Peers from class

5: Delta Math or Khan Academy

What I totally understand

Nothing

What I need to study more

EVERYTHING